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(54) Title: LED ILLUMINATED LAMP WITH THERMOELECTRIC HEAT MANAGEMENT

(57) Abstract: The present invention relates to Light Emitting Diode (LED) based lamps utilising thermoelectric modules improving the efficiency of the lamps. The present invention provides in a first aspect a light illuminating device that comprises at least one light emitting diode (LED), at least one thermoelectric module (TEM) having a first surface which is thermally connected to the LED, a heat sink thermally connected to a second surface of the at least one TEM, a thermally insulating cover creating a chamber substantially insulating the LED from ambient air. The LED may be of any conventional type, the invention however is particularly useful for devices using hi-flux LEDs, including traffic lights, illuminated roadway and/or emergency signs, airport runway lights and such.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F21V29/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F21V

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 37314 A (ALLIED SIGNAL INC) 29 June 2000 (2000-06-29) page 2, line 12 -page 5, line 26; figure 1 ---	1-24
X	EP 1 067 332 A (HELLA KG HUECK & CO) 10 January 2001 (2001-01-10) paragraph [0004] - paragraph [0027]; figures -----	1-24



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0037314	A	29-06-2000	DE 69905760 D1 EP 1140626 A1 US 2002070360 A1 WO 0037314 A1	10-04-2003 10-10-2001 13-06-2002 29-06-2000
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